

REMARKS

The Office Action mailed March 28, 2003, has been carefully considered. In response thereto, the application has been amended in a manner which is believed to place it into condition for allowance. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the Office Action and issuance of a Notice of Allowance.

At the outset, the Applicants acknowledge with appreciation the courtesy shown during the telephone interview conducted July 9, 2003. During the telephone interview, the difference between the change in the second optical path in the present invention and that in the applied *Sorin et al* reference was discussed.

More specifically, it was noted that the present invention changes the optical path length within the fiber, e.g., by stretching it or otherwise changing its physical length, as shown in Fig. 1B with reference to the actuator 128, described in the specification in the paragraph spanning pages 10 and 11, and recited in originally filed claim 4.

It was proposed to amend the claims to clarify that distinction. The Examiner indicated that it would be acceptable to recite that the path length was changed within the second optical fiber, so as to cover stretching, compression, and other techniques such as the magneto-optical and electro-optical techniques mentioned on page 19 of the specification.

Also, advantages of the present invention over *Sorin et al* were discussed. Those advantages will be reiterated below.

The Applicants respectfully submit that the amendment to claims 34 and 48 overcomes the objection to claim 34 and the rejection of claim 48 under 35 U.S.C. §112, second paragraph.

The Applicants further submit that the present claimed invention is not anticipated by *Sorin et al* and would not have been obvious over *Sorin et al* and therefore traverse the grounds

of rejection under 35 U.S.C. §§102 and 103 insofar as they may be maintained against the claims as amended.

The present claimed invention includes a feature in that the second optical path length is changed *within the second optical fiber*. As noted above, examples set forth in the originally filed specification include stretching, compression, and magneto-optical and electro-optical techniques. In a preferred embodiment, and as recited in originally filed claim 4, the physical length of the fiber is changed.

The Office Action equates the change in the second optical path length with the movement of the mirror 34 or 314 of *Sorin et al.* However, the movement of the mirror 34 or 314 in the applied reference does not actually change the optical path length within the fiber itself. In particular, the movement of the mirror in the applied reference does not expand or contract the fiber itself or otherwise change an optical path length within the fiber itself.

Furthermore, the Applicants respectfully submit that the present claimed invention offers the following advantages over *Sorin et al.* The first embodiment of *Sorin et al.*, the one shown in Fig. 1 and having the movable mirror 34, has a limitation identified by the specification of that reference in column 4, lines 53-56, namely, that “the mirror travel had to be equal to the difference between the minimum and maximum marker spacing.”

To overcome that limitation, the applied reference proposes a second embodiment, shown in Fig. 3, having a recirculating delay 312. The recirculating delay 312 uses a Fabry-Perot cavity to divide the reference signal into multiple signals having different optical delays. However, such division of the reference signal introduces a different disadvantage in that it significantly weakens the copies of the reference signal.

Thus, the technique disclosed in the applied reference requires the user to accept one of

the above-noted disadvantages. By contrast, the present invention overcomes both of those disadvantages. The present invention does so by changing the second optical path length within the second optical fiber, while the applied reference teaches moving a mirror in a setup external to the second optical fiber.

The present claimed invention offers the advantage of measuring considerably greater changes in length than possible with *Sorin et al* and in particular considerably longer than the maximum of 50-60 mm allowed by the movable mirror of *Sorin et al*. Also, the present claimed invention does not require the markers 11, 12, 13, 14, 15 of *Sorin et al*, thus offering greater flexibility in what is measured. Finally, the present claimed invention allows further advantages, such as thermal compensation, which the reference would not have allowed.

Thus, the present claimed invention is not anticipated by, and would not have been obvious over, *Sorin et al*. Therefore, the Applicants respectfully submit that the grounds of rejection under 35 U.S.C. §§102 and 103 have been overcome.

For the reasons set forth above, the Applicants respectfully submit that all grounds of objection and rejection have been overcome and that the present application as amended is in condition for allowance. Notice of such allowance is respectfully solicited.

In the event there are any questions relating to this Response or to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that prosecution of this application may be expedited.

Please charge any shortage of fees or credit any overpayment thereof to BLANK ROME LLP, Deposit Account No. 23-2185 (115354-00107). In the event that a separate Petition for an Extension of Time is required to render this submission timely and either does not accompany this Response or is insufficient to render this Response timely, the Applicant herewith petitions

under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized above.

Respectfully submitted,

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